



National Weather Service

Storm Data and Unusual Weather Phenomena



July 2006

July 2006

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage	Character of Storm
					Killed	Injured	Property Crops	
<u>LAKE MICHIGAN</u>								
LMZ645	North Pt Lt To Wind Pt Wi							
Milwaukee Harbor	09	1740CST			0	0		Marine Tstm Wind (MG42)
LMZ645	North Pt Lt To Wind Pt Wi							
Milwaukee Harbor	09	1830CST			0	0		Marine Tstm Wind (MG48)
LMZ646	Wind Pt Lt Wi To Winthrop Hbr II							
2.2 ESE Kenosha	09	2025CST			0	0		Marine Tstm Wind (MG38)
LMZ646	Wind Pt Lt Wi To Winthrop Hbr II							
2.2 ESE Kenosha	09	2030CST			0	0		Marine Tstm Wind (MG42)
LMZ646	Wind Pt Lt Wi To Winthrop Hbr II							
2.2 ESE Kenosha	09	2035CST			0	0		Marine Tstm Wind (MG36)
A broken line of severe storms moved southeast across southern Wisconsin out over Lake Michigan, mostly from the Milwaukee area south to the Illinois border. Powerful thunderstorm wind gusts were generated								
LMZ643	Sheboygan To Pt Washington Wi							
1.5 E Sheboygan	17	1335CST			0	0		Marine Tstm Wind (EG50)
LMZ643	Sheboygan To Pt Washington Wi							
Harrington Bch St Prk	17	1935CST			0	0		Marine Hail (0.75)
The remains of a line of storms (bow echo) moved east out over Lake Michigan, resulting in a few powerful wind gusts over the nearshore waters, as well as some isolated large hail.								
LMZ645	North Pt Lt To Wind Pt Wi							
Milwaukee Harbor	20	0300CST			0	0		Marine Tstm Wind (MG35)
The remains of severe storms over southern Wisconsin fell apart as they moved out over the Lake Michigan waters, but a strong wind gust affected the Milwaukee Harbor.								
LMZ645	North Pt Lt To Wind Pt Wi							
Milwaukee Harbor	22	1800CST			0	0		Marine Hail (0.75)
A cluster of storms that popped up over Milwaukee County managed to move out over Lake Michigan around the Milwaukee Harbor area and locations just to the south of the harbor.								
LMZ645	North Pt Lt To Wind Pt Wi							
Milwaukee Harbor	30	0805CST			0	0		Marine Tstm Wind (MG38)
LMZ645	North Pt Lt To Wind Pt Wi							
Milwaukee Harbor	30	0815CST			0	0		Marine Tstm Wind (MG35)
LMZ646	Wind Pt Lt Wi To Winthrop Hbr II							
2.2 ESE Kenosha	30	0900CST			0	0		Marine Tstm Wind (MG47)
The remains of severe storms over southern Wisconsin moved out over the Lake Michigan waters, primarily from the Milwaukee Harbor to Winthrop Harbor. Strong wind gusts were reported over the nearshore waters.								
<u>WISCONSIN, Southeast</u>								
Green Lake County								
Berlin	01	1820CST			0	0		Funnel Cloud
Columbia County								
1 N Wisconsin Dells	01	1847CST			0	0		Hail(1.75)
Marquette County								
Glenoak	01	1905CST			0	0		Hail(1.00)
Marquette County								
6 SE Glenoak	01	1905CST			0	0	2K	Thunderstorm Wind (EG56)
Trees down.								



National Weather Service

Storm Data and Unusual Weather Phenomena



July 2006

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed Injured		Estimated Damage Property Crops		Character of Storm
----------	------	----------------------------	---------------------------	--------------------------	--	--	---------------------------------------	--	--------------------

WISCONSIN, Southeast

Sauk County

Lake Delton	01	1907CST			0	0			Hail(0.88)
-------------	----	---------	--	--	---	---	--	--	------------

Fond Du Lac County

Ripon	01	1908CST			0	0	10K		Thunderstorm Wind (EG56)
-------	----	---------	--	--	---	---	-----	--	--------------------------

Trees and power lines down.

Fond Du Lac County

1 N Rosendale	01	1910CST			0	0	75K		Thunderstorm Wind (EG65)
---------------	----	---------	--	--	---	---	-----	--	--------------------------

Severe wind gusts destroyed a barn, and toppled nearby trees and power lines.

Green Lake County

Marquette	01	1910CST			0	0			Hail(1.75)
-----------	----	---------	--	--	---	---	--	--	------------

Green Lake County

4 WSW Marquette	01	1915CST			0	0			Hail(1.75)
-----------------	----	---------	--	--	---	---	--	--	------------

Columbia County

4 SW Poynette	01	1920CST			0	0			Thunderstorm Wind (EG56)
---------------	----	---------	--	--	---	---	--	--	--------------------------

Trees down.

Sauk County

Prairie Du Sac	01	1930CST			0	0			Thunderstorm Wind (EG52)
----------------	----	---------	--	--	---	---	--	--	--------------------------

Trees down.

Fond Du Lac County

Dundee	01	1950CST			0	0			Funnel Cloud
--------	----	---------	--	--	---	---	--	--	--------------

Sheboygan County

Greenbush	01	2045CST			0	0	2K		Thunderstorm Wind (EG52)
-----------	----	---------	--	--	---	---	----	--	--------------------------

Trees down.

Green Lake County

Green Lake	01	2100CST			0	0			Hail(1.00)
------------	----	---------	--	--	---	---	--	--	------------

Fond Du Lac County

Ripon to 3 E Ripon	01	2102CST 2110CST			0	0	30K		Hail(0.75)
-----------------------	----	--------------------	--	--	---	---	-----	--	------------

About 300 trees were damaged or destroyed by the hail at a tree nursery 3 miles east of Ripon

A broken line of severe storms developed during the evening hours of July 1st as a cold front headed southeast through south-central and southeast Wisconsin. The atmosphere became very unstable during the afternoon as temperatures reached the lower 90s with dew points in the upper 60s. These storms produced large hail (golf ball size near Marquette in Green Lake Co.) and areas of wind damage as they headed across Sauk, Marquette, Green Lake, Columbia, and Fond du Lac counties. Primarily tree damage was reported across these counties in addition to a destroyed barn at a location 1 mile north of Rosendale (Fond du Lac Co.). Two reports of funnel clouds were also noted; one being in Berlin (Green Lake Co.) at 1820CST and the other in Dundee (Fond du Lac Co.) at 1950CST. The thunderstorms diminished in intensity after sunset as instability subsided.

Fond Du Lac County

.7 W Alto	03	1228CST	0.1	10	0	0			Tornado (F0)
-----------	----	---------	-----	----	---	---	--	--	--------------

A very brief tornado spun up 0.7 miles west of Alto and tracked a tenth of a mile before dissipating. No damage was reported from this F0 tornado. This tornado was most likely of the landspout variety and the result of vertical stretching of a low-level circulation into the updraft of a towering cumulus cloud that formed on a weak atmospheric boundary that was moving south through Fond du Lac County. No precipitation was observed on the WSR-88D Doppler radar, and only very weak rotation was noted on only one volume scan with a +6 kt/-6 kt speed differential in the 0.5 degree scan.



National Weather Service

Storm Data and Unusual Weather Phenomena



July 2006

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm
<u>WISCONSIN, Southeast</u>									
Columbia County									
1 W Portage	09	1703CST			0	0			Thunderstorm Wind (EG52)
		Few trees reported down.							
Milwaukee County									
West Allis	09	1710CST 1717CST			0	0			Hail(1.00)
Waukesha County									
Brookfield	09	1715CST			0	0			Hail(1.25)
Waukesha County									
Elm Grove	09	1718CST			0	0			Hail(0.75)
Waukesha County									
2 NNW New Berlin	09	1720CST			0	0			Thunderstorm Wind (MG57)
Milwaukee County									
West Allis	09	1725CST			0	0			Hail(1.00)
Milwaukee County									
West Allis	09	1725CST			0	0			Thunderstorm Wind (EG52)
Milwaukee County									
2 SW West Allis	09	1726CST			0	0			Hail(0.75)
Milwaukee County									
1 E West Allis	09	1729CST			0	0			Hail(1.00)
Milwaukee County									
Milwaukee	09	1730CST			0	0			Hail(1.00)
Milwaukee County									
6.5 SW Milwaukee	09	1730CST			0	0			Hail(1.00)
		Some small tree branches down due to hail.							
Milwaukee County									
West Allis	09	1732CST			0	0			Hail(1.00)
Milwaukee County									
1 S Oak Creek	09	1755CST			0	0			Hail(0.75)
Waukesha County									
3 SE Brookfield	09	1800CST 2000CST			0	0	2K		Flash Flood
		Off ramps flooded at Moreland Road and I-94. Flash flood waters eroded dirt and grass on road shoulders. About 1.50 inches of rain fell in 20 minutes ending at 1710CST on the west side of Brookfield.							
Milwaukee County									
2.2 NW Greenfield to West Allis	09	1815CST			0	0	5K		Thunderstorm Wind (EG56)
		Two foot diameter tree with power lines down at 105th Street and Beloit Road. Trees and power lines toppled or damaged in West Allis. About 4400 customers lost electrical power in West Allis.							
Dane County									
6 S Cross Plains	09	1824CST			0	0			Thunderstorm Wind (EG56)
		Large trees and tree limbs down.							
Waukesha County									
Sussex to Elm Grove	09	1830CST 1850CST			0	0	75K		Thunderstorm Wind (EG56)
		Trees and power-lines uprooted and/or damaged. About 30,000 customers lost electrical power.							



National Weather Service

Storm Data and Unusual Weather Phenomena



July 2006

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm
<u>WISCONSIN, Southeast</u>									
Dane County									
4.2 WSW Madison	09	1834CST			0	0			Thunderstorm Wind (EG52)
			Several trees fell onto roads, blocking them.						
Waukesha County									
Brookfield	09	1840CST			0	0			Hail(0.75)
Waukesha County									
1 SW Brookfield	09	1841CST			0	0			Hail(0.75)
Waukesha County									
Brookfield	09	1844CST 1845CST			0	0			Hail(1.00)
			Hail covered the ground white.						
Dane County									
1 NW Mc Farland	09	1848CST			0	0			Hail(1.25)
Milwaukee County									
West Allis	09	1900CST 2030CST			0	0	30K		Flash Flood
			Cleveland Ave. was closed due to flash flood waters up to 2 to 3 feet deep. Several cars stalled and were damaged. Roughly half of the streets in West Allis had flood waters of varying depth. Some basement flooding was reported, with some contents damaged.						
Dane County									
Monona	09	1910CST			0	0			Thunderstorm Wind (EG56)
			Multiple trees down.						
Waukesha County									
2 WNW North Prairie	09	1915CST			0	0			Hail(0.75)
			Hail covered the ground white at County Road GG and Rue Park Road.						
Waukesha County									
North Prairie	09	1925CST			0	0			Hail(1.75)
Milwaukee County									
3 N West Allis	09	1933CST 2030CST			0	0	10K		Flash Flood
			Southbound Highway 45 was closed at Watertown Plank Road due to flooding. Between 1630CST and 1930CST, 3.81 inches of rain was reported. A couple cars stalled in water that was 3 to 4 feet deep, and they were damaged.						
Milwaukee County									
Milwaukee	09	2000CST 2030CST			0	0	50K		Flash Flood
			Two lanes on westbound and eastbound I-94 were closed due to flash flooding near the Marquette Interchange. Some water damaged occurred to construction equipment, and there was some soil erosion.						
Kenosha County									
Kenosha	09	2025CST			0	0			Hail(0.75)
Kenosha County									
Kenosha to Pleasant Prairie	09	2025CST 2030CST			0	0	50K		Thunderstorm Wind (EG56)
			Trees and power lines toppled.						
Kenosha County									
4 NW Kenosha	09	2030CST 2200CST			0	0	5K		Flash Flood
			Between 2020CST and 2035CST, 1.75 inches of rain fell, resulting in flooded farm field and erosion that washed dirt onto roads.						



National Weather Service

Storm Data and Unusual Weather Phenomena



July 2006

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm
----------	------	----------------------------	---------------------------	--------------------------	--------------------------------	---------------------------------	---------------------------------	------------------------------	--------------------

WISCONSIN, Southeast

Kenosha County

3 NNW Silver Lake to Trevor	09	2059CST 2105CST			0	0			Thunderstorm Wind (EG52)
Trees down.									

Kenosha County

Somers	09	2115CST			0	0			Thunderstorm Wind (EG52)
Trees down.									

A complicated weather scenario developed during the late afternoon and early evening of July 9th. A cold front pushing east into southwestern Wisconsin produced slow moving scattered thunderstorms across south-central Wisconsin as a lake breeze pushed west into the counties of Washington, eastern Waukesha and Racine. This resulted in more slow moving thunderstorms. Some of the storms across south-central Wisconsin pulsed to severe levels producing up to half-dollar sized hail (1.25" in diameter) and wind gusts to 52 knots (60 mph). The storms over southeast Wisconsin were just as strong. However, those storms aligned themselves along the northwest to southeast oriented lake breeze as they tracked very slowly southeast. Additional storms continuously developed on the northwest edge of the line. This resulted in a prolonged period of training storms and torrential rain. Around 5 inches of rain was estimated by WSR-88D Doppler radar across northeast Waukesha County and central Milwaukee County. Flash flooding resulted near the cities of Brookfield (Waukesha Co.), downtown Milwaukee (Milwaukee Co.), West Allis (Milwaukee Co.), and Kenosha (Kenosha Co.) - mainly in the form of several feet of water over roadways and soil erosion.

Two days earlier, on July 7th, in Milwaukee, a female, age 32, died from high temperatures in her residence. The maximum and minimum temperatures for Milwaukee on July 7th were 81 and 61, respectively. Afternoon heat index values on July 7th were in the lower to mid 80s. These values are well below threshold values of 105 needed to generate a StormData event. Therefore, this heat-related death will be considered indirectly-related to heat.

Dane County

4 SW Verona	11	1200CST 1500CST			0	0			Heavy Rain
--------------------	-----------	----------------------------	--	--	----------	----------	--	--	-------------------

Jefferson County

3.5 WSW Lake Mills to Lake Mills	11	1200CST 1500CST			0	0			Heavy Rain
---	-----------	----------------------------	--	--	----------	----------	--	--	-------------------

A series of slow moving thunderstorms dumped heavy rains of around 2 to over 4 inches. Only some minor urban and small stream flooding occurred. No damage was reported as water got up to the top of curbs. A trained spotter southwest of Verona measured 4.12 inches of rain for the afternoon hours. A citizen west of Lake Mills measured 3.71 inches of rain for the afternoon hours. The wastewater treatment plant in Lake Mills picked up 2.76 inches of rain.

WIZ065>066-070>072

Waukesha - Milwaukee - Walworth - Racine - Kenosha

16	1700CST			0	0			Heat
17	1700CST							

A 3-day period of hot and humid conditions affected parts of south-central and southeast Wisconsin, with a heat event developing over the southeastern counties. On July 17th, in Milwaukee County, a 45-year-old male died from the effects of heat in his residence. Overnight heat index values never went below 75 the previous night and afternoon heat index values on July 17th topped out at 105 to 107 for at least 3 hours. Actual air temperatures reached the mid-90s on July 17th with dewpoints in the mid-70s. On July 16th, maximum air temperatures were in the lower to mid-90s, dewpoints were in the upper 60s to lower 70s, and heat index values maxed out in the 95 to 100 range. On July 15th, maximum air temperatures were in the lower to mid-90s, dewpoints were in the lower to mid- 60s, and heat index values maxed out in the 95 to 100 range.



National Weather Service

Storm Data and Unusual Weather Phenomena



July 2006

July 2006								
Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Killed	Number of Persons Injured	Estimated Damage Property Crops	Character of Storm
<u>WISCONSIN, Southeast</u>								
Fond Du Lac County Rosendale	17	1248CST			0	0		Hail(0.75)
Dodge County Lomira	17	1305CST			0	0	5K	Thunderstorm Wind (EG56)
Trees and power-lines down. Garage door blown in.								
Fond Du Lac County .7 N Campbellsport	17	1305CST			0	0	3K	Thunderstorm Wind (EG56)
Trees down.								
Sheboygan County 2 SW Beechwood to Random Lake	17	1309CST 1330CST			0	0	10K	Thunderstorm Wind (EG65)
Trees and power lines down.								
Sheboygan County 7 W Cascade	17	1309CST			0	0	10K	Thunderstorm Wind (EG56)
Trees and power-lines down.								
Fond Du Lac County Dundee	17	1315CST			0	0		Hail(0.75)
Washington County 2 E Boltonville	17	1317CST			0	0		Hail(0.75)
Sheboygan County (Sbm)Sheboygan Co Ar	17	1335CST			0	0		Thunderstorm Wind (MG53)
Sheboygan County Kohler	17	1339CST			0	0		Hail(0.88)
Sheboygan County 4 NE Oostburg to Sheboygan	17	1340CST 1345CST			0	0	100K	Thunderstorm Wind (EG65)
Barn reported down with horses inside northeast of Oostburg. A roof antenna and weather station south of Sheboygan were damaged by the wind gusts. Tree and power-line damage around the city of Sheboygan where about 12,000 customers were without power. City work crews in Sheboygan had about 200 locations across the city where tree debris had to be cleaned up. Clean-up and overtime costs were unknown, but were probably substantial. Several homes had trees leaning onto roofs, and and least one vehicle was damaged when a tree fell on it.								
Sheboygan County 3.5 SE Sheboygan Falls	17	1340CST			0	0	2K	Thunderstorm Wind (EG61)
Semi truck blown over about 1 mile north of Interstate 43 interchange with CTH V. Slight damage								
Marquette County 3 N Budsin	17	1617CST			0	0		Hail(0.75)
Marquette County 8.5 NE Westfield	17	1617CST			0	0		Hail(0.75)
Marquette County Neshkoro	17	1635CST			0	0		Hail(0.88)
Green Lake County 3 W Berlin	17	1655CST			0	0		Hail(0.88)
Columbia County 1.5 N Friesland	17	1750CST			0	0		Hail(1.00)
Columbia County Cambria	17	1830CST			0	0		Hail(0.75)



National Weather Service

Storm Data and Unusual Weather Phenomena



July 2006

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm
<u>WISCONSIN, Southeast</u>									
Fond Du Lac County									
3 NW Campbellsport	17	1850CST			0	0			Hail(1.00)
Sheboygan County									
1.5 WNW Sheboygan Fal	17	1855CST			0	0			Hail(0.75)
Ozaukee County									
1.5 E Belgium	17	1935CST			0	0			Hail(0.75)
Lafayette County									
1 E South Wayne	17	2017CST			0	0	2K		Thunderstorm Wind (EG52)
Large trees and tree limbs down.									
Washington County									
Hartford	17	2018CST			0	0			Hail(0.75)
Green County									
2 SW Browntown to 3.5 SE Browntown	17	2020CST			0	0	15K		Thunderstorm Wind (EG52)
Trees and some power-lines down in the area southwest through southeast of Browntown, including Browntown.									
Kenosha County									
Twin Lakes to Trevor	17	2140CST 2145CST			0	0	5K		Thunderstorm Wind (EG52)
Trees down.									
Racine County									
1.5 NW Kansasville	17	2200CST			0	0	10K		Thunderstorm Wind (EG56)
Tree and power-line damage in the Eagle Lake area northwest of Kansasville.									
Walworth County									
Zenda	17	2212CST			0	0	5K		Thunderstorm Wind (EG52)
Trees down.									
Kenosha County									
Kenosha to Pleasant Prairie	17	2235CST 2255CST			0	0	20K		Thunderstorm Wind (EG56)
Areas of toppled trees and broken tree branches, along with power-line damage, reported across the cities of Kenosha and Pleasant Prairie.									
Racine County									
Racine	17	2250CST			0	0	5K		Thunderstorm Wind (EG52)
Trees down.									

Two rounds of severe storms affected parts of south-central and southeast Wisconsin on July 17th. The first round occurred during the early afternoon hours over the counties of Dodge, Fond du Lac, Washington, and Sheboygan. By 1250CST the storms had organized into a bow echo line extending from Lake Winnebago south to near West Bend and Hartford in Washington County and then west to the Columbus area in southeastern Columbia County. This bow echo then moved east to out over Lake Michigan. Dime-size hail and thunderstorm wind gusts up to 65 knots (75 mph) resulted with some of these storms. Tree and power-line damage was reported in addition to some structural damage in Dodge and Sheboygan counties. A semi-truck was also blown off InterState 43. After a brief lull from thunderstorms, more storms developed during the evening hours across the remainder of south-central and southeast Wisconsin. These storms produced dime to quarter-sized hail and wind gusts to around 52 knots (60 mph). Mainly tree damage was reported with these storms.

Interestingly, the cluster of severe storms that affected the southern parts of Lafayette and Green Counties moved east-southeast to McHenry County in northeastern Illinois. A strong thunderstorm gust front (outflow boundary), associated with the McHenry County thunderstorms, pushed north into southeastern Wisconsin. The gust front winds knocked down some trees in the Twin Lakes-Trevor area of western Kenosha County, and the Eagle Lake area northwest of Kansasville in south-central Racine County. No precipitation was associated with these outflow winds in Kenosha and Racine County. Eventually this gust front merged with another south-moving frontal boundary over the central portions of Racine County. Severe thunderstorms quickly popped up in this merger zone over central Racine County, and eventually they moved southeast through the remainder of Racine and Kenosha Counties (round #2 of severe weather for July 17th). Synoptically, a strong, mid-level short wave trough traveled east through Wisconsin during the afternoon and evening hours. Hot temperatures in the mid-90s with dew points in the low to mid-70s, and cooler air aloft, caused extreme instability to increase through the day which allowed for rapid thunderstorm development.



National Weather Service

Storm Data and Unusual Weather Phenomena



July 2006

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage	Character of Storm
					Killed	Injured	Property Crops	
<u>WISCONSIN, Southeast</u>								
Columbia County								
4 W Pardeeville	20	0030CST			0	0		Hail(0.88)
Iowa County								
Avoca to 3 SE Hollandale	20	0105CST 0125CST			0	0	50K	Thunderstorm Wind (EG65)
Trees and power lines reported down countywide.								
Sauk County								
La Valle to Sauk City	20	0105CST 0120CST			0	0	50K	Thunderstorm Wind (EG65)
Trees and power lines reported down countywide.								
Columbia County								
Portage to 5 N Portage	20	0109CST 0118CST			0	0	10K	Thunderstorm Wind (EG56)
Trees toppled and some power-lines downed								
Dane County								
5 W Madison to 4 E Madison	20	0125CST 0145CST			0	0	150K	Thunderstorm Wind (EG65)
Bricks were taken off a building in downtown Madison due to severe, hurricane-force wind gusts to an estimated 65 knots (75 mph). Dozens of power-lines were damaged. At least 3 vehicles were either damaged or destroyed by fallen trees. Many roads were blocked by the tree debris. A large tree was toppled onto a home on the near east side of Madison, resulting in minor roof damage.								
Lafayette County								
Belmont	20	0125CST			0	0	5K	Thunderstorm Wind (EG65)
Trees and power lines down.								
Columbia County								
Pardeeville	20	0127CST			0	0		Thunderstorm Wind (EG56)
Columbia County								
2 ESE Wisconsin Dells	20	0130CST			0	0		Thunderstorm Wind (EG52)
Lafayette County								
7 N Argyle to Argyle	20	0132CST 0135CST			0	0	20K	Thunderstorm Wind (EG65)
Trees and power lines down.								
Dane County								
5 NW Madison	20	0134CST 0140CST			0	0		Hail(0.75)
Dane County								
Blue Mounds to Mt Horeb	20	0135CST 0140CST			0	0	10K	Thunderstorm Wind (EG56)
Trees and power-lines down.								
Dane County								
4 NE Monona	20	0140CST			0	0	15K	Thunderstorm Wind (MG71)
Hurricane force wind gusts to 71 knots (82 mph) produced tree and power line damage 4.0 miles northeast of Monona								
Dane County								
4 NNE Sun Prairie	20	0140CST			0	0		Thunderstorm Wind (EG52)
Trees down.								
Green County								
New Glarus	20	0145CST			0	0	10K	Thunderstorm Wind (EG65)
A car was crushed and a truck's window was broken by falling trees. Antennas also damaged.								
Lafayette County								
Shullsburg	20	0145CST			0	0	5K	Thunderstorm Wind (EG65)
Trees and power lines down.								



National Weather Service

Storm Data and Unusual Weather Phenomena



July 2006

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed Injured	Estimated Damage Property Crops	Character of Storm
<u>WISCONSIN, Southeast</u>							
Dane County 2.7 ESE Albion	20	0150CST			0 0	2K	Thunderstorm Wind (EG56)
							Trees down. One large tree fell on a home's roof, resulting in minor damage.
Rock County Union to 4 SE Clinton	20	0155CST 0225CST			0 0	75K	Thunderstorm Wind (EG56)
							Trees and power lines down in a large swath from northwestern to southeastern Rock County. In the city of Janesville, at least 3 cars were damaged by felled trees or tree branch debris. Several roads were temporarily blocked by tree debris.
Dodge County 2 NNW Portland	20	0157CST			0 0	5K	Thunderstorm Wind (EG56)
							Trees and power lines down.
Jefferson County Waterloo	20	0158CST			0 0	5K	Thunderstorm Wind (EG56)
							Trees and power lines down.
Dane County Belleville	20	0200CST			0 0	5K	Thunderstorm Wind (EG52)
							Large tree branches and power lines down.
Dodge County 4 W Theresa	20	0200CST			0 0		Thunderstorm Wind (EG52)
							Trees down.
Green County Albany to Brodhead	20	0210CST 0212CST			0 0	20K	Thunderstorm Wind (EG56)
							Trees, power lines, and antennas down. One large tree fell onto a vehicle in Brodhead, resulting in minor damage.
Green County 1 NE Dayton	20	0210CST			0 0	10K	Thunderstorm Wind (EG65)
							Strong winds at minimum hurricane-force caused trees to topple onto roads. Some power-lines down. Some cars then crashed into fallen trees in Brooklyn.
Jefferson County Ft Atkinson	20	0218CST			0 0	25K	Thunderstorm Wind (EG56)
							Trees toppled over. Two small planes at the Ft. Atkinson Municipal Airport broke loose from their moorings due to the powerful winds. One of the plane's wings were damaged as it tipped from side to side.
Jefferson County Rome	20	0225CST			0 0		Thunderstorm Wind (EG56)
							Tree down.
Rock County Milton	20	0225CST			0 0	15K	Lightning
							Lightning struck a barn causing it to catch fire.
Rock County 2 E Milton	20	0230CST			0 0	50K	Lightning
							Lightning struck a barn, and the resultant fire burned the empty barn to the ground.
Washington County Richfield	20	0230CST			0 0	5K	Thunderstorm Wind (EG56)
							Trees and power lines down.
Waukesha County 4 SSW Dousman	20	0230CST			0 0		Thunderstorm Wind (EG52)
							Tree limbs and trees down.



National Weather Service

Storm Data and Unusual Weather Phenomena



July 2006

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed Injured	Estimated Damage Property Crops	Character of Storm
<u>WISCONSIN, Southeast</u>							
Walworth County							
Darien to Walworth	20	0235CST 0242CST			0 0	10K	Thunderstorm Wind (EG52)
		Trees and power lines down.					
Waukesha County							
Brookfield	20	0240CST			0 0	10K	Thunderstorm Wind (EG52)
		Power lines down.					
Walworth County							
2 E Lake Geneva	20	0250CST			0 0	5K	Thunderstorm Wind (EG52)
		Trees and power lines down.					
Racine County							
Burlington	20	0255CST			0 0	10K	Thunderstorm Wind (EG52)
		Trees and power lines down.					
Kenosha County							
Paddock Lake	20	0310CST			0 0	10K	Thunderstorm Wind (EG52)
		Trees and tree branches fell onto power lines.					
Racine County							
Sturtevant	20	0330CST			0 0	10K	Lightning
		Lightning struck a home in the 3200 block of 90th St., resulting in a roof fire.					
Milwaukee County							
Milwaukee	20	0400CST			0 0	15K	Lightning
		Lightning struck a home in the 1800 block of W. Greenfield Ave., resulting in a roof fire					
Racine County							
Racine	20	0430CST			0 0	10K	Lightning
		Lightning struck a home on in the 1600 block of Edgewood Ave., resulting in a roof fire					
Sheboygan County							
3 NE Beechwood	20	0430CST			0 0	5K	Lightning
		Lightning struck a power-line voltage regulator, disrupting power to about 100 homes on CTH S.					
Dane County							
5 S Blue Mounds	20	0514CST			0 0		Thunderstorm Wind (EG52)
		Tree and tree branches down.					
Green County							
New Glarus	20	0523CST			0 0		Thunderstorm Wind (EG52)
		Trees down.					
Green County							
Albany	20	0542CST			0 0		Hail(0.75)
Fond Du Lac County							
1 W Elmore	20	0704CST			0 0	80K	Lightning
		Lightning struck a rural home and the resultant fire burned the house to the ground.					

During the pre-dawn early morning hours of July 20th, a severe squall line pushed into south-central and southeast Wisconsin from southern Minnesota. This squall line produced mainly damaging winds, some reports being "significant" (>65 knots or hurricane-force), and only a couple hail reports. One of the significant reports was at a location 4 miles northeast of Monona at 0140CST where a gust of 71 knots (82 mph) was measured, before the power went out. Hundreds of trees were knocked down in the Madison area, and there were dozens power-line damage reports. Up to 40,000 customers lost electrical power across southern Wisconsin, with 13,000 alone in the Madison area. The squall line weakened as it approached the corner of southeast Wisconsin due to weakening instability, despite still favorable deep layer shear. Toward dawn, more scattered thunderstorms developed across south-central Wisconsin as a northwest to southeast axis of instability redeveloped. A few of these storms pulsed up to produce only marginal severe hail and wind.



National Weather Service

Storm Data and Unusual Weather Phenomena



July 2006

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage	Property		Character of Storm
					Killed	Injured	Crops			

WISCONSIN, Southeast

Sauk County										
3 NW Loganville	22	1348CST			0	0				Hail(1.75)
Sauk County										
Reedsburg	22	1350CST			0	0				Hail(1.00)
Sauk County										
Reedsburg	22	1350CST			0	0		5K		Thunderstorm Wind (MG55)
Trees and power-lines down.										
Sauk County										
3 SE Loganville	22	1400CST			0	0				Hail(1.75)
Sauk County										
6 W Prairie Du Sac	22	1420CST			0	0				Hail(1.75)
Iowa County										
5 E Mineral Pt	22	1455CST			0	0				Hail(1.00)
Columbia County										
8 ESE Wisconsin Dells	22	1458CST			0	0				Hail(0.75)
Lafayette County										
Argyle	22	1515CST			0	0				Hail(0.75)
Lafayette County										
2 S South Wayne	22	1515CST			0	0				Hail(1.00)
Sauk County										
7 ENE Baraboo	22	1525CST			0	0				Hail(0.75)
Dane County										
2 S Waunakee	22	1526CST			0	0				Hail(0.75)
Dane County										
1 SW Madison	22	1552CST			0	0				Thunderstorm Wind (EG50)
Trees were toppled.										
Lafayette County										
6 WSW South Wayne	22	1555CST			0	0				Hail(1.00)
Milwaukee County										
Wauwatosa to	22	1731CST			0	0				Hail(1.00)
2 SSE Milwaukee		1735CST								

Widely scattered thunderstorms developed across south-central and southeast Wisconsin during the afternoon of July 22nd as convective inhibition diminished. Cold air aloft and low freezing levels made it easy for storms to produce large hail and a few reports of damaging, straight-line winds. Up to golf-ball sized hail was noted. The storms diminished quickly as instability subsided toward evening.

On July 22nd, a female, age 94, died due to elevated temperatures in her residence in Monroe (Green Co.). She was not using her air-conditioner. Outside maximum and minimum air temperatures on July 22nd in the Monroe area were about 80 and 58, respectively. Afternoon heat index values maxed out in the lower 80s, well below official threshold values of 105 needed to generate a heat event in StormData. Therefore, this heat-related death will be considered as an indirectly-related heat death. It is possible that the three hot days of July 15-17, with maximum air temperatures in the mid 90s and overnight lows of 70-75, may have weakened the 94-year-old female (pre-conditioned). Heat index values reached 95 to 100 on July 15th in the Monroe area.

Racine County

Racine	24	0800CST			0	0		2K		Lightning
Lightning struck the chimney of a home in the 1000 block on Main St. in Racine. There was no fire, but the top portion of the chimney was destroyed, with bricks littering the nearby yard and sidewalk. The time of occurrence, 08CST is only an estimate - all										



National Weather Service

Storm Data and Unusual Weather Phenomena



July 2006

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<u>WISCONSIN, Southeast</u>									
<p>within a 90 minute timeframe. There were no reports of injuries or deaths. The heavy rain resulted from slow-moving and back-building thunderstorms that essentially remained nearly stationary over the city of Madison. The hilly terrain and a typical urban setting of a lot of concrete and asphalt enable the runoff water to quickly overwhelm the storm sewers and concentrate water in low-lying areas of the city. Water depths reach to the top of small vehicles - 4 to 5 feet deep in spots. Many roads became impassable due to the flood waters, and many residential homes and businesses on or near the UW-Madison campus had flooded basement and first-floor flooding. Some basement apartment units had water depths of 6 to 8 feet. Nearly all campus buildings had flooding of varying degrees of intensity, and the Camp Randall football field sustained damage. Some campus buildings had flat roofs that quickly flooded as storm drains became plugged - which allowed water to run thru the walls and ceilings of buildings. The buildings that sustained the most damage were the Memorial Union, Computer Sciences, and Veterinary Medicine. Numerous vehicles on or near the campus were damaged or totaled by the flood waters, and some were reported to be floating away. Unofficial rain gages measured 4.5 to 5 inches from just west of West High School up to the Capitol Square. WSR-88D Doppler rainfall estimates were in the 3 to 5 inch rain, therefore it appears the unofficial rain gages were very accurate. Rainfall amounts quickly fell off to 1 to 1.5 inches near the south Beltline (STH14/18/151). It is nearly impossible to assess the monetary value of the flash flood damage, therefore, the amount posted in the header strip of this event is only a ballpark estimate</p>									
Dane County									
3 SSE Utica	27	1300CST			0	0			Thunderstorm Wind (EG56)
Trees down.									
Waukesha County									
Eagle	27	1318CST			0	0			Thunderstorm Wind (EG52)
Trees down on County Road ZZ.									
Jefferson County									
3 N Ft Atkinson to 2 WNW Hebron	27	1325CST			0	0			Thunderstorm Wind (EG52)
Trees down.									
Jefferson County									
Busseyville	27	1327CST			0	0			Thunderstorm Wind (EG52)
Trees down.									
Waukesha County									
Pewaukee to Waukesha	27	1343CST 1350CST			0	0	20K		Thunderstorm Wind (EG56)
Multiple reports of trees and power-lines down.									
Waukesha County									
Waukesha	27	1345CST			0	1			Lightning
A man was injured and taken to a hospital after lightning struck very close to him. It is unknown where he was in the city of Waukesha, nor is the exact time known. He was treated and released from the hospital.									
Waukesha County									
2 S Waukesha	27	1410CST			0	0			Thunderstorm Wind (EG61)
Trees down.									
Waukesha County									
Big Bend	27	1430CST			0	0	5K		Thunderstorm Wind (EG52)
Trees and power lines down.									
Racine County									
Rochester	27	1440CST			0	0			Thunderstorm Wind (EG52)
Tree down.									
Washington County									
Kewaskum	27	1450CST			0	0	5K		Thunderstorm Wind (EG52)
Trees and power lines down.									
Waukesha County									
2 NW Waukesha to 6 SSE Waukesha	27	1454CST 1600CST			0	0	3M	500K	Flash Flood



National Weather Service

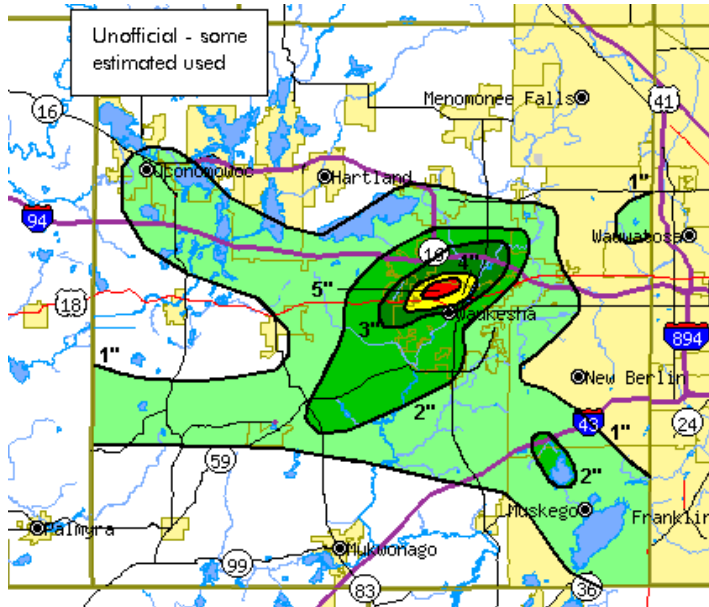
Storm Data and Unusual Weather Phenomena



July 2006

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed Injured	Estimated Damage Property Crops	Character of Storm
----------	------	----------------------------	---------------------------	--------------------------	--	---------------------------------------	--------------------

WISCONSIN, Southeast



Composite rainfall graphic based on rainfall amounts from official gage sites and WSR-88D Doppler radar estimates.

A 1-in-a-100-year flood occurred in and around the city of Waukesha after a heavy rain of 3 to 5 inches within a 2-hr period. The heavy rains were the result of slow-moving or back-building thunderstorms that essentially sat over the same area. There were no reports of injuries or deaths. Numerous roads and yards were flooded with water depths of 1 to 5 feet. Many vehicles were stalled in the deep waters or were damaged. There were numerous reports of flooded basements of homes or businesses or apartments. The roof of one business in downtown Waukesha collapsed due to the weight of the heavy rains. The Fox River in downtown Waukesha exceeded its 6-foot flood stage by 6 inches, and then quickly subsided. Some nearby farm fields reported washed out sections and crop losses. The Expo Center sustained damage as well to several of its buildings. The basement of the downtown Waukesha Fire Department flooded to the depth of 5 feet. This flooding was the result of a collapsed trench outside the building where a new addition was under construction. At one point, Waukesha city officials warned motorists to stay away from the city, and some officials thought the July 27th flooding was the worst they could remember. WSR-88D Doppler radar rainfall estimates indicated that up to 5 inches fell over the northwest portion of the city of Waukesha, tapering off to 2 inches on the far south side of the city where STH 59 is located. One unofficial rain gage catch was 4.25 inches on the north side of the city, which matched the radar estimate. It is nearly impossible to assess the monetary amount of the flash flood damage, therefore, the amount posted in the header strip of this event is only a rough estimate.

Racine County

Waterford to
Union Grove

27	1455CST 1505CST	0	0	5K	Thunderstorm Wind (EG52)
----	--------------------	---	---	----	--------------------------

Trees and power lines down.

Kenosha County

Twin Lakes to
Paddock Lake

27	1525CST 1530CST	0	0	5K	Thunderstorm Wind (EG52)
----	--------------------	---	---	----	--------------------------

Trees and power lines down.

A similar scenario to that of July 9, 2006 occurred again on the afternoon of July 27th. Very slow moving scattered thunderstorms developed across portions of south-central and southeast Wisconsin. A lake breeze fired additional storms across Waukesha County. With propagation speeds often less than 15 mph, torrential rains resulted underneath these storms. Nearly stationary storms over the Madison and Waukesha areas produced 4 to 5 inches of rain within about 90 minutes. Flash flooding resulted in these locales with



National Weather Service

Storm Data and Unusual Weather Phenomena



July 2006

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed Injured	Estimated Damage Property Crops	Character of Storm
----------	------	----------------------------	---------------------------	--------------------------	--	---------------------------------------	--------------------

WISCONSIN, Southeast

many buildings and vehicles sustaining varying degrees of damage. The UW-Madison campus was especially hit hard. See the specific write-ups as flash flood entries above. Other smaller cities in Dane and Waukesha counties also experienced some minor urban flooding, but these reports did not warrant a separate line-item entry above. Other storms across the area pulsed to severe limits to produce damaging winds to about 61 knots (70 mph) and one funnel cloud report at 1228CST at a location 2 miles northwest of Stoughton (Dane Co.). The major electrical companies estimated that about 10,000 customers were without electrical power at one time or another on July 27th, due to tree debris or lightning striking power-lines.

Green Lake County

Berlin	30	0610CST			0	0			Thunderstorm Wind (EG52)
Trees down.									

Marquette County

Countywide	30	0615CST 0630CST			0	0	5K		Thunderstorm Wind (EG56)
Tree and power line damage scattered across the whole county.									

Fond Du Lac County

2 SW Ripon	30	0630CST			0	0	5K		Thunderstorm Wind (EG56)
Trees and power lines reported down.									

Fond Du Lac County

Taycheedah	30	0632CST			0	0	5K		Thunderstorm Wind (EG56)
Trees and power lines down.									

Sheboygan County

Cascade	30	0650CST			0	0			Hail(0.88)
----------------	----	---------	--	--	---	---	--	--	-------------------

Sheboygan County

Cascade	30	0650CST			0	0			Thunderstorm Wind (EG52)
Trees down.									

Dodge County

Beaver Dam	30	0700CST			0	0	5K		Thunderstorm Wind (EG52)
Trees and power-lines down.									

Dodge County

2 NE Lomira	30	0703CST			0	0	5K		Thunderstorm Wind (EG52)
Trees and power-lines down.									

Washington County

Kewaskum	30	0705CST 0715CST			0	0	15K		Thunderstorm Wind (EG56)
Trees and power-lines down across the northern portions of Washington County.									

Marquette County

6 ENE Briggsville	30	0706CST			0	0			Thunderstorm Wind (EG52)
--------------------------	----	---------	--	--	---	---	--	--	---------------------------------

Fond Du Lac County

1 E Ashford	30	0711CST			0	0	5K		Thunderstorm Wind (EG52)
Trees and power-lines down.									

Columbia County

7 NNE Portage	30	0718CST			0	0	5K		Thunderstorm Wind (EG56)
Trees and power-lines reported down.									

Ozaukee County

2 NW Cedarburg	30	0740CST			0	0	5K		Thunderstorm Wind (EG56)
Trees and power-lines reported down.									

Jefferson County

3 NE Ixonia	30	0752CST			0	0			Thunderstorm Wind (EG52)
--------------------	----	---------	--	--	---	---	--	--	---------------------------------

Milwaukee County

5.7 NW Milwaukee	30	0800CST			0	0	50K		Thunderstorm Wind (EG61)
Powerful wind gusts to an estimated 61 knots (70 mph) took the roof of a lumberyard off, which took down nearby power-lines. Around 45 customers were without power for a time as a result. Large trees and powerlines were toppled									



National Weather Service

Storm Data and Unusual Weather Phenomena



July 2006

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm
----------	------	----------------------------	---------------------------	--------------------------	--------------------------------	---------------------------------	---------------------------------	------------------------------	--------------------

WISCONSIN, Southeast

Racine County

2 SE Sturtevant	30	0908CST			0	0			Hail(0.75)
-----------------	----	---------	--	--	---	---	--	--	------------

Racine County

Racine	30	0910CST			0	0	3K		Lightning
--------	----	---------	--	--	---	---	----	--	-----------

Lightning hit a tree, which then fell onto a car in the city of Racine.

Scattered clusters of thunderstorms developed during the mid-morning hours and moved southeast with time. These storms produced mainly damaging winds up to 61 knots (70 mph), and some isolated large hail. Vivid lightning was also noted. Lightning hit a tree in Racine around 0910CST causing it to fall onto and lightly damage a car. About 15,000 customers were without electrical power due to tree damage to power-lines.

WIZ051>052-056>060-062>072

Fond Du Lac - Sheboygan - Sauk - Columbia - Dodge - Washington - Ozaukee - Iowa - Dane - Jefferson - Waukesha - Milwaukee - Lafayette - Green - Rock - Walworth - Racine - Kenosha

30	1800CST	0	40				Heat
31	2359CST						

A period of very hot and humid weather began on the evening of July 30th and continued into August 2nd. Overnight temperatures only fell to 70 to 75 on the 30th, and soared into the 95 to 100 degree range during the afternoon of July 31st. With dew points in the low to mid-70s, heat index values only dropped to about 75 overnight on July 30th, and peaked in the 105 to 110 degree range across south-central and southeast Wisconsin during the afternoon of July 31st. An estimated 40 people in Milwaukee County were hospitalized due to heat-related symptoms. For information about the August portion of this heat wave, consult the August 2006 StormData publication.